

Amendments to the Specification:

A Preliminary Amendment filed concurrently with this application on 22 March 2001 added a new section entitled CROSS REFERENCE TO RELATED APPLICATIONS. Please amend that section as follows:

CROSS REFERENCE TO RELATED APPLICATIONS

C1 This application is a divisional of ~~pending~~ United States Patent Application No. 09/078,982, filed May 14, 1998, now United States Patent 6,363,940.

Page 9, lines 14-20, of the application includes a heading and a separate paragraph. In the published version of the application (U.S. Publication No. 2001/0018594, the "Published Application"), however, the heading and the paragraph were run together in paragraph [0023]. Please amend that text to separate the heading from the paragraph to read as follows:

Markers

C2 Preferably, markers 30 are biologically inert and are relatively small so that they interfere as little as possible with the removal or other treatment of tissue volume 22. Markers 30 may have different geometric configurations, e.g., spherical, disk-like, cylindrical. However, it is preferred that the greatest dimension of a marker 30, as measured along any axis extending through the marker from one surface to an opposite surface, is not more than about 5mm. Ideally, markers 30 are even smaller, i.e., the greatest dimension is about 1-2mm.

Page 14, lines 3-14, of the application includes a heading and a separate paragraph. In Published Application, however, the heading and the paragraph were run together in paragraph [0038]. Please amend that text to separate the heading from the paragraph to read as follows:

Probe and Detector

C3 The design and function of probe 32 and detector 34 depend upon the embodiment of marker 30 used. However, for all embodiments of marker 30 (except marker 30g), detector 34 is designed to provide humanly recognizable information when probe 32 is positioned within a selected proximity, e.g., 1-5cm, of a given marker. This information may take one of a variety of forms, including a burst of humanly perceivable sound, constant or intermittent illumination of a light, movement of a needle on a dial, a short burst of air, change of data in a visual display, increased image brightness or contrast (in the case when detector 34 is an ultrasound imaging system, as discussed below) or other humanly perceivable proximity information. In this regard detector 34 may include a dial 112, light 114, speaker 116, or other appropriate devices for generating the selected form of humanly perceivable information.

Page 16, lines 16-19, of the application includes a heading and a separate paragraph. In Published Application, however, the heading and the paragraph were run together in paragraph [0044]. Please amend that text to separate the heading from the paragraph to read as follows:

Cutter

C4 As described in more detail below in connection with the description of methods of using system 20, tissue volume 22 that is bracketed with markers 30 may be surgically removed using one of a variety of tools. Referring to FIGS. 9 and 10, one of these tools is cutter 200.

Page 18, lines 21-24, of the application includes a heading and a separate paragraph. In Published Application, however, the heading and the paragraph were run together in paragraph [0052]. Please amend that text to separate the heading from the paragraph to read as follows:

Tissue Anchor

C5 Turning now to FIGS. 11-13, another aspect of the present invention is tissue anchor 300. The latter is designed to stabilize tissue mass 26 during surgical removal of the mass using system 20, as described in more detail below.

Page 20, lines 20-26, of the application includes a heading and a separate paragraph. In Published Application, however, the heading and the paragraph were run together in paragraph [0059]. Please amend that text to separate the heading from the paragraph to read as follows:

Bracketing

C6 Referring now to FIGS. 1, 14 and 15, markers 30 may be used to bracket (i.e., define the boundaries of) tissue volume 22 in a tissue portion 24 in accordance with the following method. In the following description of the method of bracketing tissue volume 22, the latter is contained in a human breast. However, it is to be appreciated that tissue volume 22 may be present in other organs and structures, e.g., a liver, or may constitute an entire organ or structure.

Page 23, lines 3-13, of the application includes a heading and a separate paragraph. In Published Application, however, the heading and the paragraph were run together in paragraph [0067]. Please amend that text to separate the heading from the paragraph to read as follows:

Marker Implantation

C7 Various techniques may be used to implant markers 30 in tissue portion 24. With reference to FIGS. 14 and 15, one approach is to insert markers 30 percutaneously through skin 402 overlying tissue portion 24 using known needle pushers or implanters (neither shown) of the type used to implant "seeds" of radioactive material for various cancer treatments. For example, needle pushers of the type sold by Best Industries of Springfield, Virginia, may be satisfactorily employed. These needle pushers include a central needle surrounded by an

C⁷ outer tube having an end plate or cup for supporting the radioactive "seed." Following insertion of the needle pusher into the selected tissue mass, the radioactive "seed" is released by pressing the central needle downwardly relative to the surrounding outer tube, with the point of the needle ejecting the "seed" from the end plate or cup of the outer tube.

Page 24, lines 10-18, of the application includes a heading and a separate paragraph. In Published Application, however, the heading and the paragraph were run together in paragraph [0072]. Please amend that text to separate the heading from the paragraph to read as follows:

Marker Identification

C⁸ Once tissue mass 26 has been bracketed in the manner described above, tissue volume 22 can be removed using either of two procedures encompassed by the present invention. As described in more detail below, the first procedure involves identifying the boundaries of tissue volume 22 using an embodiment of probe 32 and detector 34 that is appropriate for the type of marker 30 used, as discussed above. Using information from detector 34 regarding such boundaries, tissue volume 22 is then removed using a scalpel, cutter 200 or other tool, with tissue anchor 300 preferably, but not necessarily, being used to stabilize the tissue volume during removal.

Page 28, lines 9-17, of the application includes a heading and a separate paragraph. In Published Application, however, the heading and the paragraph were run together in paragraph [0083]. Please amend that text to separate the heading from the paragraph to read as follows:

Tissue Removal

C⁹ Following identification of tissue volume 22 using the procedures outlined above, surgical removal of the tissue volume commences. Referring to FIGS. 14 and 16, the first of the two procedures for removing tissue volume 22 referenced above commences with the formation of an incision 404 (FIG. 14) in skin 402 above

9 tissue volume 22. The length of incision 404 is typically about equal to, or slightly greater than, the distance between two markers 30 lying on a given axis, e.g., the Y axis as illustrated in FIG. 14. Next, portions of skin 402 adjacent incision 404 are pulled apart by retractors or other known devices, so as to form open region 406 (FIG. 16) and expose tissue portion 24 beneath.

